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CST-183-FA110-14FA-COURSE

This program will prompt the user for height, weight, age, and athlete status. t will then determine the user’s BMI and target heart ranges .

Step 1. Pseudocode

Prompt for height

store in height

Prompt for weight

store in weight

Prompt for age

store in age

prompt for "not an athlete" || "athlete"

Boolean Athlete

//Equation time

BMI = (703 \* weight) / (height\*height)

if BMI < 18.5 {weightRange = "underweight"}

else if BMI <25.0 {weightRange = "Normal"}

else if BMI <30 {weightRange = "OVerweight"}

else {weightRange = "Obese"}

MHR = 217 - (.85 \* age)

If athlete && age<50 {MHR -=3}

else if athlete && age<55 {MHR+=2}

else if athlete && age>=55 {MHR+=4}

else MHR = MHR

//optimal range

lowEnd = .60\*MHR

highENd = .80 \* MHR

Double

Step 3.

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  
 This program analyzes the user's BMI  
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 JAVA PROGRAMMING - CST-183-FA110-14FA-COURSE  
 Program 3  
\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/  
import java.util.Scanner;  
import javax.swing.JOptionPane;  
import java.text.DecimalFormat;  
  
public class JavaProgram3  
{  
 public static void main (String[] args)  
 {  
 Scanner keyboard = new Scanner (System.in);  
 DecimalFormat decFormat = new DecimalFormat("#0.0");  
 //Variable Declarations  
 double height;  
 double weight;  
 double BMI;  
 int MHR;  
 int age;  
 int lowEnd;  
 int highEnd;  
 boolean athlete;  
 String weightRange;  
 String input;  
 String bmiOutput;  
 String heartOutput;  
 char athleteChar;  
   
 System.out.print("Please enter your height (in inches): ");  
 height = keyboard.nextDouble();//Get the user's height  
 System.out.print("\nPlease enter your weight(in pounds): ");  
 weight = keyboard.nextDouble();//Get the user's weight  
 System.out.print("\nPlease enter your age: ");  
 age = keyboard.nextInt();//Get the user's age  
 System.out.print("Are you an athlete?(Y/N):");  
 input = keyboard.next();//Get the user's input  
 athleteChar = input.charAt(0);  
 if (athleteChar== 'Y' ||athleteChar== 'y')   
 {  
 athlete = true;  
 }  
 else if (athleteChar == 'N' || athleteChar== 'n')   
 {  
 athlete = false;  
 }  
 else  
 {   
 System.out.println("Invalid entry defaulting to no.");   
 athlete= false;  
 }  
   
 BMI = (703 \* weight) / (height\*height);  
 if (BMI < 18.5) {weightRange = "underweight";}  
 else if (BMI <25.0) {weightRange = "Normal";}  
 else if (BMI <30) {weightRange = "OVerweight";}  
 else {weightRange = "Obese";}  
   
 MHR = (int)Math.round(217 - (.85 \* age));  
 if (athlete && age<50) {MHR -=3;}//Subtract 3 for healthy  
 else if (athlete && age<55) {MHR+=2;}//Add 2 for age  
 else if (athlete && age>=55) {MHR+=4;}//Add 4 for extreme age  
 else {MHR = MHR;}//Non-Athlete  
   
 //optimal ragnges  
 lowEnd = (int)Math.round(.60 \* MHR);  
 highEnd = (int)Math.round(.80 \* MHR);  
   
 //Begin output  
 bmiOutput = "Body MAss Index: " + decFormat.format(BMI)+ " (" + weightRange + ")";  
 heartOutput ="\nYour training heart rate should be between "+ lowEnd + " and "+ highEnd;  
 JOptionPane.showMessageDialog(null,bmiOutput);  
 JOptionPane.showMessageDialog(null,heartOutput);  
 }  
}



